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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/288,140	04/08/1999	SHUNPEI YAMAZAKI	0756-1943	7103

7590 06/02/2005

ROBINSON INTELLECTUAL PROPERTY LAW OFFICE
PMB 955
21010 SOUTHBANK STREET
POTOMAC FALLS,, VA 20165

EXAMINER

TON, MINH TOAN T

ART UNIT PAPER NUMBER

2871

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/288,140

Applicant(s)

YAMAZAKI ET AL.

Examiner

Toan Ton

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on papers filed 03/29/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,9,14,25,33,36-38,43,51 and 54-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,9,14,25,33,36-38,43,51 and 54-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 65-66 rejected under 35 U.S.C. 103(a) as being unpatentable over Matsueda (JP 01-156725, IDS reference) in view of Wakai et al (US 5055899).

Matsueda discloses a TFT-LCD device comprising (Figure 4): a substrate 40; TFT (not all shown) elements formed the substrate; an polyimide (organic resin) film 52 formed on the TFT elements; pixel electrodes 48 (not all shown) formed on the organic resin film and connected to the respective TFT-elements (TFT elements inherently comprises bus lines connected to their respective source/gate/drain electrodes) through a contact hole (see Figure 4); an interlayer insulating film 46 formed between the TFT elements and the organic resin film.

TFT elements inherently comprise gate lines crossing data lines.

The limitation not disclosed by Matsueda is a lead/first electrode.

Wakai discloses a contact metal film (Applicant's conductive film) disposed between the source/drain electrode and the pixel electrode for achieving advantages such as ensuring electrical connection there between (col. 8, 2nd paragraph, Figure 9), wherein the contact metal film comprises materials such as Cr, Cu, Al (col. 8, third paragraph). Therefore, it would have been at least obvious to one of ordinary skill in the art to employ a contact metal film disposed between the source/drain electrode and the pixel electrode for achieving advantages such as

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ensuring electrical connection there between. Further, it would have at least obvious to one of ordinary skill in the art to employ a contact metal film (Applicant's first electrode) disposed between the source electrode and the source lines (not shown) for achieving similar advantages such as ensuring electrical connection there between.

Matsueda shows two different contact holes not overlapping with each other (see at least Figures 2, 4).

Materials used for the conductive film and the bus lines such as Al are common and known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ materials such as Al for the bus lines/conductive film, as it is known and common in the art.

The TFTs being an n-channel or p-channel type are common and known in the art.

The use of a reflective display device is known in the art for advantages such as no need for backlight, improved energy efficiency. Therefore, it would have been obvious to one of ordinary skill in the art to employ a reflective display device for advantages such as no need for backlight, improved energy efficiency. Further, Matsueda discloses that silicon substrate can be used if the device is a reflection display device (page 6, lines 8-9 of the English translation).

Electronic devices such as portable computer incorporating LCDs are common and known in the art since LCDs offer advantages such as lightweight, good resolution.

3. Claims 4, 9, 14, 25, 33, 36-38, 43, 51 and 54-64 and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsueda in view of Wakai, as applied to claims 65-66 above, and further in view of Nakazawa et al (5614730).

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The limitation not disclosed by Matsueda in view of Wakai is a blocking film of silicon oxide disposed between the substrate and the TFT.

Nakazawa discloses the use of a film 2216 of silicon oxide disposed between the substrate and the TFT for achieving advantages such as preventing the diffusion of the impurities of the substrate (see at least Figure 12, col. 15, lines 48-54). Therefore, it would have been obvious to one ordinary skill in the art to employ a film 2216 of silicon oxide disposed between the substrate and the TFT for achieving advantages such as preventing the diffusion of the impurities of the substrate.

Response to Arguments

4. Applicant's arguments filed 02/22/05 pertaining to the obviousness double patenting rejection have been fully considered but they are not persuasive.

Applicant's arguments are as follows:

- (1) The prior art of record fails to disclose a blocking film of silicon oxide disposed between the substrate and the TFT.
- (2) Wakai fails to disclose first contact hole not overlapping second contact hole.
- (3) The prior art of record fails disclose a particular relationship of the first and second TFTs with respect to the first and second signal lines.

Examiner's responses to Applicant's arguments are as follows:

- (1) Newly-added limitations are addressed in Nakazawa (5614730) above.
- (2) Matsueda, the primary reference, disclose two different contact holes not

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overlapping with each other (see at least Figures 2, 4).

(3) Matsueda discloses pixel electrodes 48 (not all shown) formed on the organic resin film and connected to the respective TFT-elements (TFT elements inherently comprises bus lines connected to their respective source/gate/drain electrodes) through a contact hole.

Matsueda, the primary reference, discloses all claimed limitations except for the first/lead electrode. Wakai, the secondary reference, discloses a contact metal film (Applicant's conductive film/lead electrode) disposed between the source/drain electrode and the pixel electrode for achieving advantages such as ensuring electrical connection there between (col. 8, 2nd paragraph, Figure 9), wherein the contact metal film comprises materials such as Cr, Cu, Al (col. 8, third paragraph).

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 26, 2005


TOANTON
PRIMARY EXAMINER